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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Bethany Kniffin Hoogs

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GENERAL ELECTRIC COMPANY

GLOBAL RESEARCH

ONE RESEARCH CIRCLE

BLDG. K1-3A59

NISKAYUNA, NY 12309

EXAMINER

NGUYEN, TAN D

ART UNIT

PAPER NUMBER

3689

NOTIFICATION DATE

DELIVERY MODE

05/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/676,928	Applicant(s) HOOGS ET AL.	
	Examiner Tan Dean D. Nguyen	Art Unit 3689	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 17-26, 44-53, 68 and 70-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 17-26, 44-53, 68 and 70-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment of 2/19/2010 has been entered.
2. Claims 15, 17-26, 44-53, and 68, 70-74 are pending and comprise of 4 groups:
 - 1) Method¹: 15, and 17-21,
 - 2) Method²: 22-26,
 - 3) System: 44-53, and
 - 4) computer readable medium (CRM): 68, 70-74.

Claims amended: 15, 20, 22, 44, 68 and 73.

Claims canceled: 1-14, 16, 27-43, 54-67 and 69.
3. As of 2/19/2010, independent claim 15 is as followed:
 15. (Currently amended) A computer-implemented method for determining analyzing business risk of a target business entity from qualitative event business information, comprising:
 - a) retrieving a plurality of articles each containing qualitative event information relevant to the target business entity, wherein the retrieved articles contain keywords and text patterns that are representative of events of interest for the target business entity and are within a reasonable proximity to the target business entity;
 - b) parsing each sentence within a paragraph of text from each one of the retrieved articles that contains keywords and text patterns into component parts of speech and grammar structure;

c) extracting event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

d) generating a structured events record from the extracted event details and relationships; e) retrieving a plurality of comparing ~~the structured events record to~~ templates of pattern events, wherein each template comprises a number and type of events that form a pattern in an event category and temporal constraints that exist between the events;

f) using temporal based reasoning to identify how well each of the templates of pattern events match the structured events record; and

g) generating a probability of risk measure based on a the degree of match between the identified templates of pattern events and the structured events record.

Note: for convenience, letters (a)-(g) are added to the beginning of each step.

I. Facts Findings

1) record:

1 : the state or fact of being recorded

2 : something that records: as **a** : something that recalls or relates past

events **b** : an official document that records the acts of a public body or

officer **c** : an authentic official copy of a document deposited with a legally designated officer **d** : the official copy of the papers used in a law case

3 a (1) : a body of known or recorded facts about something or someone especially with reference to a particular sphere of activity that often forms a

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discernible pattern <a good academic *record*> <a liberal voting *record*> (2) : a collection of related items of information (as in a database) treated as a unit **b** (1) : an attested top performance (2) : an unsurpassed statistic.

II. Principles of Laws

4. The preamble is normally considered "being optional" and does not have much patentable weight since many times it is merely statements of purpose or intended use. See MPEP 2111.02 It's the body of the claim that matters and the current body of the claims have no tie to any particular machine. *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim); *STX LLC. v. Brine*, 211 F.3d 588, 591, 54 USPQ2d 1347, 1350 (Fed. Cir. 2000) (holding that the preamble phrase "which

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provides improved playing and handling characteristics" in a claim drawn to a head for a lacrosse stick was not a claim limitation). 7/28/09.

5. Note: independent claim 44 is an apparatus claim. In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. vs. Bausch & Lomb Inc.* (Fed. Cir. 1990). Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be employed/used, does not differentiate apparatus from the prior art apparatus. *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

IV. Claim Rejections - 35 USC § 112

6. Claims 15-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) In claim 15, it's not clear whether "an article" from the "parsing" is the same or different from "article" from the "retrieving" step?

2) In claim 15, the "comparing step" is vague because it compares a record or a file (data storage) to "templates of pattern events" which appear to be a "pattern" or

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“trend” or “subject” or “behavior”. These appear to be different items/features and it’s not clear how do you compare two different items or features to obtain a result or “match” which normally require two similar items or items of similar structures?

3) Claim 15 recites the limitation "the degree" in the last step. There is insufficient antecedent basis for this limitation in the claim.

4) Similarly, independent claims 22, 44, and 68, which have similar limitations to independent claim 15, are rejected for the same reasons set forth in the rejection of claim 15 to minimize duplication.

5) Claim 20, the last two lines are vague because the phrase "at least one of cased-based reasoning and a Bayesian belief network" is not clear whether one item is needed or both items are needed.

6) Similarly, dependent claims 25 and 73, which have similar limitations to dependent claim 20, are rejected for the same reasons set forth in the rejection of claim 20 to minimize duplication.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 15, 17-21 (method) and 22-26 (method)** are rejected under 35 U.S.C.

101. Based on Supreme Court precedent and recent Federal Circuit decisions, the Office’s guidance to an examiner is that a § 101 process must

(1) be tied to a particular machine or apparatus or

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(2) transform underlying subject matter (such as an article or materials) to a different state or thing.

See (1) *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); (2) *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); (3) *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); and (4) *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

To qualify as a § 101 statutory process, the claim should recite the particular machine or apparatus to which it is tied, for example by identifying the machine or apparatus that accomplishes the method steps, or positively reciting the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent-eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such as data gathering or outputting, is not sufficient to pass the test.

Here, applicant's method steps fail the first prong of the new test because the claimed invention fails to set forth a particular machine that is specifically configured/programmed to carry out the claimed invention. See claim 1 or 7 of *Diehr*, II,

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et al., US patent 4,344,142. Specifically, the Examiner asserts that the current claim language can be interpreted that the steps are carried out manually.

Further, applicant's method steps fail the second prong of the test because there is no transformation of the data. It is asserted that the data has not been transformed into another state or into another object.

The applicant is reminded that:

"Purported transformation or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.

(In re Bernard L. Bilski and Rand A. Warsaw Page 28)"

Moreover, the "transformation must be central to the purpose of the claimed process.

(In re Bernard L. Bilski and Rand A. Warsaw Page 28)"

A citation of "a computer-implemented method" in the preamble is noticed but the preamble is considered as "capable of" or "optional" and is not given much patentable weight as shown above. The tie to the "computer" or "a machine" must express in the body of the claims steps.

9. Claims 44-53 (system) are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Note: that it appears that independent claim 44 is an apparatus claim. In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or

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functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. vs. Bausch & Lomb Inc.* (Fed. Circ. 1990). Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be employed/used, does not differentiate apparatus from the prior art apparatus. *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

Current claims 44-53 comprise a database, search component, extraction engine component, a semantic analysis tool, a pattern events database, and a pattern analyzer, which are basically software components. There are no positive structural citations of an apparatus or structural elements or devices such as processor or computer or computer server. Citations of “**manner of operating**” the device elements such as “stored on a first computer storage system, that defines.”, “running on a computer processor”, etc., have no patentable weight as indicated above. The use of phrase such as “a processor configured to (method steps)” or “a search component coupled to the processor and configured to” are acceptable language.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 15, 17-21 (method), 22-26 (method), 44-53 (system), and 68, 70-74 (CRM) are rejected under 35 U.S.C. 103(a) as being unpatentable over (1) YOUNG ET AL. (US 2003/0088433) in view of (2) DAHLGREN ET AL. and (3) REYNOLDS ET AL.

As for independent claims 15, 22, 44 and 68, which have similar scope, YOUNG ET AL. fairly discloses a method, system, and CRM for analyzing business risk of a target business entity from qualitative event business information, comprising:

a) retrieving a plurality of articles (documents) each containing qualitative event information relevant to the target business entity, wherein the retrieved articles contain keywords (name) and patterns that are representative of events of interest for the target business entity and are within a reasonable proximity to the target business entity;

{see Figs. 1, 2, 2A, 12, 18, pars. [0006-0007]}

b) parsing each sentence within a paragraph of text from an article that contains keywords and textual content or patterns into component parts of speech and grammar structure;

{see Fig. 1, step 135 "*Natural language parsing*", pars. [0034, 0036]}

c) extracting event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

{see Figs. 4, 6, pars. [0034-0046], [0070-0076], [0081-0088]}

d) generating a structured events record from the extracted event details and relationships;

{see Figs. 4, 5, 6, pars. [0054-0060, 0082-0084, 0101]}

g) generating/identify a probability of risk (threat) measure (level) based on business process policies or rules (reactive, proactive or predictive).

{see Fig. 6, pars. [0037-0045, 0070-0076, 0088 “...to determine whether this transaction may be a fraud **risk**...pattern of fraud, ...fraud alert event...a fraud pattern..”}]

YOUNG ET AL. fairly teaches the claimed invention except for the features of text pattern and within a reasonable proximity to the target business entity in (a), the type of parsing in step (b), steps (e) and (f), and the features of “based on a the degree of match between the identified templates of pattern events and the structured events record” on the last step (g).

In a similar system/method for interpreting natural language input using common sense reasoning and with a “natural language parsing” function, **DAHLGREN ET AL.** teaches the function of retrieving the information/article using keywords and text patterns, parsing them into components parts of speech and grammar structure,

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extracting events from the parsed parts, stores the extracted information, retrieves a relevant text model in DRS structures/forms for containing pattern events {see Figs. 6A, 6B, 8, cols. 9-11}, compares the extracted information to the relevant model, matches the information and determines the relevancy of the matches {see Figs. 3, 5, especially 6A, 6B, col. 1, line 55 to col. 2, line 65, col. 3, line 7 to line 65, col. 4, lines 7-20, col. 6, lines 1-15, col. 7, lines 40-67, col. 9, lines 45-67, col. 11, lines 1-10, and col. 15, lines 25-37, claims 20-23. The use of any other similar DRS/forms such as templates for pattern of events would have been obvious as mere using other similar forms or DRS to achieve similar results.

Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as “PHOSITA”) at the time of the invention was made to modify the system/method of YOUNG ET AL. to include the features of DAHLGREN ET AL. to avoid the combinatorial explosion that has been an obstacle to natural language interpretation and improving effective query relevancy {see cols. 2-3}.

The teachings of YOUNG ET AL/DAHLGREN ET AL. fails to teach the features of “based on a degree of match between the identified templates of pattern events and the structured events record” on the last step (g).

In a similar system/method for measuring and managing operational risk, REYNOLDS ET AL. teaches approaches for modeling operational risk, measuring and managing risk, and **computing a risk measure** based on the recorded event {see Figs. 1, 3, 4, steps 138, 1406, and pars. [0014 “...*for computing at least one risk measure*

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using ...events, wherein said risk measure is a measure of operational risk...", 0015-0016, 0030. 0055-0058, 0165-0171, and Tables 1, 3, 4}.

Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as "PHOSITA") at the time of the invention was made to modify the system/method of YOUNG ET AL. / DAHLGREN ET AL. to modify the generation of risk level taught by YOUNG ET AL by measuring and managing risk, and **computing a risk measure** based on the recorded event as taught by REYNOLDS ET AL. to provide effective assessment of risk exposure and better managing of risks since they are measured values {see pars. [0003], [0013]}.

13. As for dep. claim 45 (dep. of 44), which deal with rules for relating keywords or events in the articles/documents to the target business entity, these are taught in DAHLGREN ET AL. cols. 8-10.

14. As for dep. claims 17-19 (dep. of 15), 23-24 (dep. of 22), 46-50 (dep. of 44) and 70-72 (dep. of 68), which deal with information extraction parameters and relationship parameters between the events and the target business entity, these are fairly taught in DAHLGREN ET AL. cols. 7-11, and 13-15.

15. As for dep. claims 20 (dep. of 15), 25 (dep. of 22), 51-52 (dep. of 44) and 73 (dep. of 68), which deal with the types of data comparison or matching parameters, i.e. a Bayesian belief network, this is taught in REYNOLDS ET AL. pars. [0046..**Bayesian** methods.."] or DAHLGREN ET AL. col. 11. "*Naïve Semantic Reasoning*".

16. As for dep. claims 21 (dep. of 15), 26 (dep. of 22), 53 (dep. of 44) and 74 (dep. of 68), which deal with feature of generating an alert when the level of risk reaches a

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predetermined level (threshold), this is taught in YOUNG ET AL. pars. [0051, 0080, 0088 “***a fraud alert event...***”.

17. Claims 15, 17-21 (method), 22-26 (method), 44-53 (system), and 68, 70-74 (CRM) are rejected (2nd time) under 35 U.S.C. 103(a) as being unpatentable over (1) YOUNG ET AL. (US 2003/0088433) in view of (2) DAHLGREN ET AL., (3) REYNOLDS ET AL and (4) CALVER.

As for independent claims 15, 22, 44 and 68, which have similar scope, the teachings of YOUNG ET AL. /DAHLGREN ET AL. /REYNOLDS ET AL. is cited above.

In a similar user input (search) and query system for providing proper application services, CALVER is merely cited to teach the various types of search, query, and response functions using various input/output types such as HTML, Forms, Templates, see Figs. 4, 12, 15, and 16, pars. [0050-0052, 0060-0069]}.

Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as “PHOSITA”) at the time of the invention was made to modify the system/method of YOUNG ET AL. / DAHLGREN ET AL. /REYNOLDS ET AL. to modify the types of search, query, and response functions using various input/output types such as HTML, Forms, Templates, etc., as taught by CALVER to improve increasingly targeted query to match the specific business interests and more directed questions, as taught in pars. [0059-0065].

As for the rejections of dep. claims 17-21, 23-26, 45-53 and 70-74, they are rejected for the same reasons set forth above.

Response to Arguments

18. Applicant's arguments with respect to claims 15-26, 44-53, and 68-74 have been considered but are moot in view of the new ground(s) of rejection which are caused by applicant's amendment of the claims.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

No claims are allowed.

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20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct@uspto.gov>. Should you have any questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

21. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

22. Any response to this action should be mailed to:

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23. In receiving an Office Action, it becomes apparent that certain documents are missing, e. g. copies of references, Forms PTO 1449, PTO-892, etc., requests for copies should be directed to Tech Center 3600 Customer Service at (571) 272-3600, or e-mail CustomerService3600@uspto.gov.

24. Any inquiry concerning the merits of the examination of the application should be directed to Dean Tan Nguyen at telephone number (571) 272-6806. My work schedule is normally Monday through Friday from 6:30 am - 4:00 pm. I am scheduled to be off every other Friday. Should I be unavailable during my normal working hours, my supervisor Janice Mooneyham can be reached at (571) 272-6805. The main FAX phone numbers for formal communications concerning this application are **(571) 273-8300**. My personal Fax is (571) 273-6806. Informal communications may be made, following a telephone call to the examiner, by an informal FAX number to be given.

/Tan Dean D. Nguyen/

Primary Examiner, Art Unit 3689